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# A New Subgenus and Species of Neotropical *Hylaeus* from Costa Rica (Hymenoptera: Colletidae)

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*Abstract.*—A new Neotropical subgenus of *Hylaeus*, ***Snellingella*, subgenus nov.**, is described, with ***Hylaeus amplus*, sp. nov.**, from Costa Rica as the type species. Characteristics to separate the new species from other Costa Rican *Hylaeus* are provided.

*Hylaeus* Fabricius is a diverse genus (47 subgenera, over 700 species) with one of the broadest distributions of any genus of bees. *Hylaeus* is found on all continents except Antarctica and on remote islands, and is diverse in both temperate and tropical regions (Michener 1979). In the Neotropical Region, 111 species are recognized (Moure et al. 2007), with most of the South American species unplaced to subgenus. Subgenera recorded from the Neotropics include *Cephylaeus* Moure (southern Brazil), *Gongyloprosopis* Snelling (tropical South America), *Hylaeopsis* Michener (Neotropical Region), *Hylaeana* Michener (Neotropical Region), *Orohylaeus* Michener (high Andes), *Prosopis* Fabricius (Holarctic, northern margin of the Neotropical Region), and *Spatulariella* Popov (adventive in Chile and Argentina).

Roy Snelling contributed much to our knowledge of this challenging group. He revised the *Hylaeus* of the Nearctic region (Snelling 1966a, 1966b, 1966c, 1968, 1970), southern India and Sri Lanka (Snelling 1980) and the Bonin Islands (Snelling 1970), and published works on *Hylaeus* of the Afrotropics (Snelling 1985) and Neotropical region (Snelling 1982). It is therefore fitting to describe a distinctive Neotropical *Hylaeus* from Costa Rica in his honor.

## METHODS

Distinguishing between subgeneric and specific characters in an, at present, monotypic subgenus is fraught with risk. Here, characters that are used to recognize existing subgenera are included in the subgeneric description; characters that vary within other Neotropical subgenera are included in the species description. Morphological terminology follows Michener (2007) and for propodeal structures Snelling (1985). The abbreviations F1, F2, etc., denote the first, second, etc. flagellar segments of the antenna; T1, T2, etc. the first, second, etc. metasomal terga; S1, S2, etc., the first, second, etc. metasomal sterna.

### *Snellingella* new subgenus

Type species: *Hylaeus amplus*, sp. nov.

*Diagnosis.*—This subgenus is distinguished from all other Western Hemisphere subgenera (and representatives of the 25 of 36 subgenera not native in the Americas available for study) by the V-shaped basal depression of T1 punctate rather than impunctate. The combination of head wider than long, linear malar space, non-carinate pronotal lobe and omaulus, complete apical hair band on

T1, and T2 with gradulus, also serve to distinguish it.

*Description.*—Head short, broad (Figs 1,2). Interantennal platform weakly developed, not carinate laterally. Malar space linear. Pronotal collar narrow especially medially, lateral angle in dorsal view obliquely angled, not truncate. Pronotal lobe broadly rounded, without dorsal carina, lacking distinct anterior face. Scutum in profile convex anteriorly, well above pronotal collar. Omaulus not carinate. Propodeum except basal area and propodeal pit obscured by pubescence; propodeal triangle with basal portion strongly sloping, lateral margin carinate, without carina separating it from posterior area; no carina enclosing spiracle. Forecoxa not carinate, without lateral process or spine. T1 V-shaped basal depression punctate, with lateral margin not sharply angled; apical margin of segment with strong apical hair band, other terga with bands indistinct or absent. T2 with distinct, shallow gradulus, carinate on anterior margin.

*Male.*—Mandible bidentate, inner tooth not as long as outer, apices acute. Facial fovea small, linear, indistinct among coarse punctures. Preoccipital carina present dorsally and laterally. T1 in lateral view without distinct angle between anterior and dorsal faces. T2 gradulus narrow. S8 distal process narrowly keeled, straight, not bent down. Genitalia with gonstylus broad, not rod-like apically.

*Female.*—Facial fovea short, not quite reaching level of anterior margin of lateral ocellus, nearer to eye than to ocellus. Vertex bulging in area of ocelli. Preoccipital carina present dorsally, not laterally. T1 in lateral view evenly curved without distinct anterior and dorsal faces. T2 gradulus broad. Sterna punctate, surface not satiny.

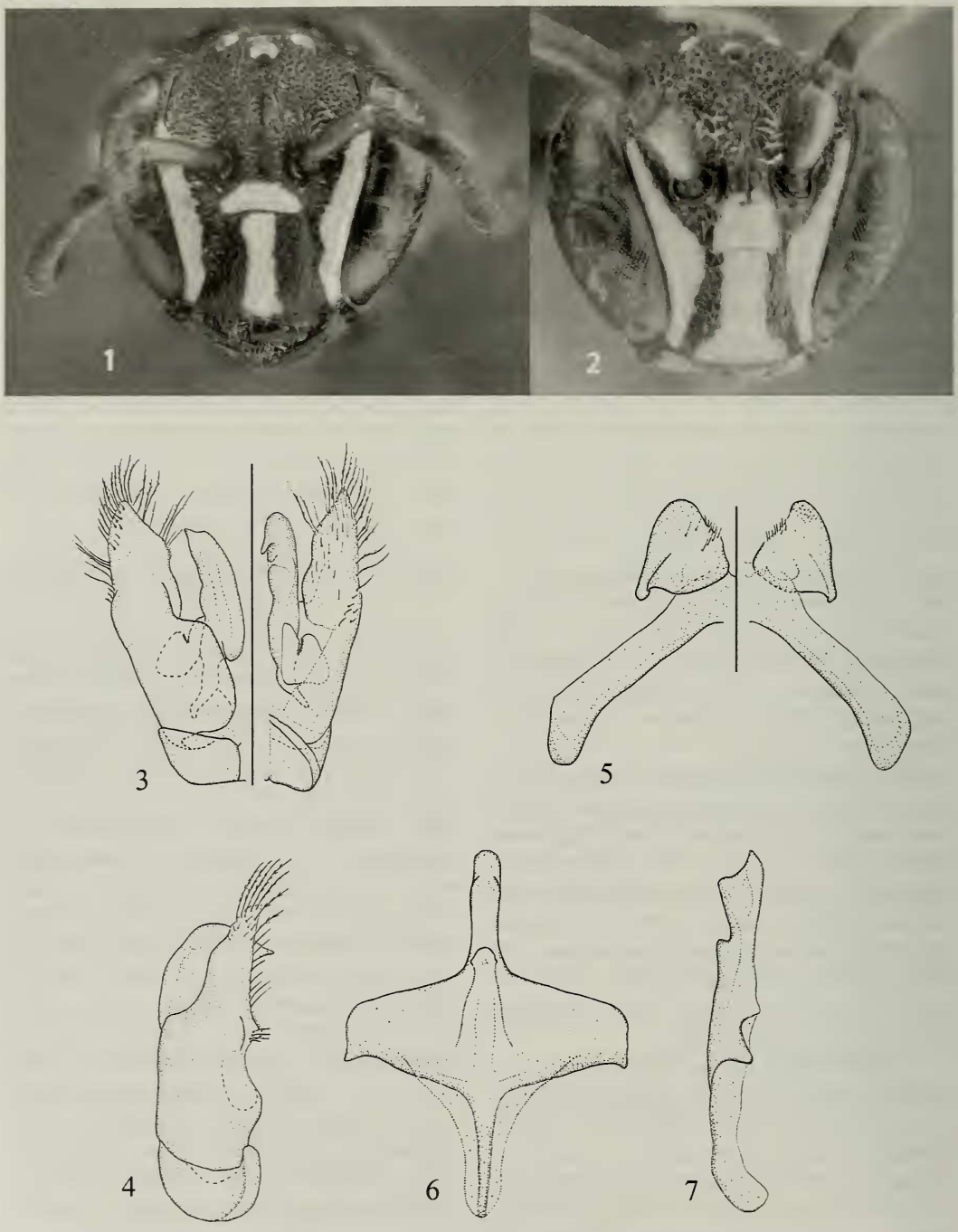
*Discussion.*—In the keys to subgenera of the Western Hemisphere (Snelling 2007), males run to couplet 7 where they agree with *Hylaeus* s. str. in the parallel sided interantennal elevation that extends dorsally beyond the antennal sockets, but they lack pectinate apical lobes on S7. Females run to couplet 6 where they fail to agree with either option; the gena is as wide as the eye and the mesepisternal punctures are distinct, but lateral carinae are present on the propodeum and the terga are conspicuously, densely punctate.

*Etymology.*—It is a great pleasure to recognize a friend and colleague who has contributed much to our knowledge of bees in general and *Hylaeus* in particular. Roy took the time to encourage a young high school teacher attempting to do systematic work on the side, even turning over a mostly completed manuscript. For that I will always be grateful.

### *Hylaeus* (*Snellingella*) *amplus* new species
(Figs 1–7)

*Diagnosis.*—The subgeneric diagnosis will serve to differentiate *H. amplus* from other Western Hemisphere species. In addition, male S7 (Fig. 5) and S8 (Figs 6, 7) are unique. Among the 26 species known from Costa Rica (Griswold et al 1995, updated), some undescribed, *H. amplus* can be distinguished by the combination of scutellum not maculate, propodeum without transverse carina, mesepisternum sparsely punctate and shiny, T1 with complete apical hair band, and T2 with distinct gradulus.

*Male.*—Body length 8 mm, forewing length 5.5 mm. Integument black except: yellow on mandible, labrum medially, clypeus except along lateral margin, supraclypeal area, paraocular area, scape ventrally, pronotal collar, posterior spot on pronotal lobe, spot on tegula, foretibia anteriorly, midtibia apically on anterior surface, hindtibia basal stripe anteriorly, all basitarsi; various shades of reddish brown on antenna, legs, lateral and apical margins of terga, sterna apically. Wings stained, strongly so anteriorly on forewing, veins dark brown. Pubescence white ex-




Figs 1–7. *Hylaeus* (*Snellingella*) *amplus* new species. 1, Head of female. 2, Head of male. 3, Dorsal, ventral views of male genitalia. 4, Lateral view of male genitalia. 5, Dorsal, ventral views of male S7. 6, Ventral view of male S8. 7, Lateral view of male S8.

cept dark on T7, S6; longest hairs shorter than scape; erect on head, moderately dense on hypostomal area; very short, sparse on scutum; dense on metanotum laterally; obscuring integument on mesepisternum ventrally and most of propodeum; T1 with narrow apical band of short, dense, plumose hairs obscuring surface; T2–5 with short, sparse pubescence not forming distinct apical bands. Body dull except shiny on mesepisternum, lateral face of propodeum, T1, sterna; surface, where punctures not contiguous, lineolate; punctures of clypeus, paraocular area, supraclypeal area indistinct, separated by one to two puncture widths; frons, vertex irregularly contiguously punctate; scutum, scutellum densely but not contiguously punctate; mesepisternum with punctures small, two to three puncture widths apart; metepisternum transversely striate throughout; propodeum laterally finely, densely, but not contiguously, punctate; T1 punctures dense, coarse on dorsal surface, nearly contiguous medially; T2 more densely, finely punctate; T3–5 still more finely punctate; sterna with fine, sparse punctation.

Head broader than long (1.1 ×, Fig. 2). Ocelloccipital distance < interocellar distance < ocellocular distance. Maximum genal width less than maximum eye width in lateral view (0.9 ×). Scape moderately expanded, length approximately 1.5 times maximum width; F1 broader than long (1.4 ×); F2 length 1.1 times width; F3 length 1.3 times width, F4–10 similarly shaped. Propodeum with well developed lateral and oblique carinae, dorsal surface shorter than scutellum, basal zone coarsely rugulose, delimited laterally by irregular carina, propodeal pit slender, elongate, narrowed dorsally, propodeal spiracle not delimited by carina. T1 narrowly depressed apically. T2 more broadly, strongly depressed apically behind lateral preapical swelling. T3 with broad, slightly depressed apical area. S7 as in Fig. 5. S8 as in Figs 6, 7. Genitalia as in Figs 3, 4.

*Female.*—Length 7.5–8.5 mm; forewing length 6.5–7 mm. As in male except for usual sexual differences and as follows: yellow markings restricted to wide longitudinal stripe on clypeus, supraclypeal area, paraocular area (Fig. 1), pronotal collar. Pubescence sparser on hypostomal area, denser on propodeum, T2–4 margins, sterna. Punctation finer on frons, vertex, scutum, scutellum, terga; sparser on scutum, scutellum; denser on sterna.

Head broader than long (1.2 ×). Maximum genal width equal to maximum eye width in lateral view (1.0 ×). Scape not expanded; F1 slightly wider than long (1.1 ×); F2 wider than long (1.2 ×); F3–9 as long, or slightly longer, as wide (1.0–1.1 ×). Propodeum basal zone slightly less coarsely rugulose. T2 not strongly depressed apically; T3 scarcely depressed apically. T2–3 with circular lateral fovea covered with appressed setae.

*Type Material.*—Holotype male: **Costa Rica**, San Jose, Escazu, 24–30 Jan 1988, F. D. Parker (#30778). Paratypes: **Costa Rica**: 1 male, San Jose, Escazu, 5 Feb 1989, F. D. Parker; 1 female, San Jose, San Isidro General, Feb 1993, F. D. Parker; 1 female, Guanacaste, Finca Montezuma, 3 km SE Rio Naranjo, 25–31 Mar 1992, F. D. Parker; 1 female, same except 12–20 Mar 1993. Holotype and paratypes in the U. S. National Pollinating Insects Collection, Logan, Utah.

*Distribution.*—Apparently endemic to mid elevations of Costa Rica.

*Discussion.—Hylaeus amplus* is rarely collected. Of 565 specimens of Costa Rican *Hylaeus* studied, only five specimens belong to this species. All were collected in the months of January through March even though at two of the localities collections were made throughout the entire year.

*Etymology.*—This bee is significantly larger than any other Costa Rican *Hylaeus*, thus the Latin *amplus*, large.

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